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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,194	08/15/2002	Michel Renard	218874USOPCT	8696
22850	7590	10/05/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER BAUM, STUART F	
			ART UNIT 1638	PAPER NUMBER
			NOTIFICATION DATE 10/05/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/030,194

Applicant(s)

RENARD ET AL.

Examiner

Stuart F. Baum

Art Unit

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4-8 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4-8 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 7/12/2007 has been entered.
2. Claims 1, 4-8 and 11-16 are pending.
Claims 2-3 and 9-10 have been canceled.
3. Claims 1, 4-8 and 11-16 including SEQ ID NO:5 and SEQ ID NO:4 are examined in the present office action.
4. Rejections and objections not set forth below are withdrawn.
5. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.

Scope of Enablement

6. Claims 1, 4-8 and 11-16 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a plant in the family Brassicaceae, wherein the plant comprises a mutant gene encoding a protein comprising the amino acid sequence of SEQ ID NO:7, wherein the gene was mutagenized by chemical mutagenesis, does not reasonably provide enablement for an isolated nucleic acid encoding a protein comprising the amino acid sequence Gly Tyr X₁ Val Glu X₂ in which X₁ represents arginine or asparagines and which X₂ represents a basic amino acid, wherein the sequence is SEQ ID NO:7 or 4, and plant transformation therewith wherein the transformed plant exhibits a reduction in plant size as compared to a wild-type plant. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. This rejection is maintained for the reasons of record set forth in the Official action

Art Unit: 1638

mailed 2/12/2007. Applicant's arguments filed 7/12/2007 have been fully considered but they are not persuasive.

Applicants contend that at the time of the invention, the GRAS family and the RGA/GAI subfamily of proteins was known in the art (page 6 of Remarks, bottom paragraph). Applicants direct the Examiner's attention to the Peng et al (1999) and Silverstone et al (1998) publications (page 7 of Remarks, top paragraph). Applicants contend it would only be routine experimentation using the disclosed sequences in the art to query sequence databases to identify sequences corresponding to proteins of the RGA/GAI subfamily having a GYRVEE or GYNVEE sequence. Applicants contend, given the above information, one skilled in the art could design primers or probes and screen a cDNA library for nucleic acids encoding a protein belonging to the RGA/GAI subfamily and comprising a GYRVEE or GYNVEE sequence which can then be mutated in order to replace the codon for "E" with a codon for "R" or "K" (page 7 of Remarks, 1st full paragraph). Applicants contend plant transformation with said sequence is well within ordinary skill in the art (page 7 of Remarks, bottom paragraph). Applicants contend the cited references showing unpredictability are not relevant since they refer to genes that do not encode proteins of the RGA/GAI family, and are not related to the GRAS family (page 7 of Remarks, bottom paragraph). Applicants contend that Peng et al discloses several mutants of the RGA/GAI transcription factors, but they do not involve the same mutation as is being claimed by Applicants (page 8 of Remarks, top paragraph). Applicants contend that the mutant proteins of Peng et al are similar to Applicants claimed sequences, i.e., they are semi-dominant mutations that confer a dwarf, gibberellin-resistant phenotype.

Art Unit: 1638

The Office contends that the encoded mutant proteins recited in Peng et al do not contain the same mutation as the encoded proteins of Applicants. In fact, Peng et al discloses that some alleles of GAI are semi-dominant and produce a dwarf phenotype whereas some alleles of GAI are loss-of-function and produce tall, rather than dwarf phenotypes (page 257, right column, 1st paragraph and page 259, right column, 2nd full paragraph). Therefore, the prior art nor Applicants disclose any teaching of transforming a plant with a nucleic acid encoding a protein having the claimed mutation which then results in a plant having a dwarf phenotype. The Office contends that the claimed genus of proteins functions as transcription factors. The Office contends the cited art demonstrating unpredictability can be used for all transcription factors involved in plant development, including those in the RGA/GAI subfamily of GRAS transcription factors. The Office contends that the prior art only teaches RGA/GAI subfamily proteins that have been isolated from Arabidopsis. Applicants do not disclose any other species from other plants that are operable in Applicants' invention. Therefore, given the lack of teaching by Applicants, either by disclosure or example, of RGA/GAI subfamily proteins having the claimed mutation that creates a plant with a dwarf phenotype, and given the state-of-the-art and unpredictability as discussed in the office action mailed 2/12/2007, and given the breadth of the claims, undue trial and experimentation would be required by one of skill in the art to practice the claimed invention.

§102

7. Claims 5-8, 11 and 13-16 remain rejected under 35 U.S.C. 102(b) as being anticipated by Foisset et al (1995, Theor. Appl. Genet. 91(5):756-761, listed in the IDS) taken with the evidence

Art Unit: 1638

of Barret et al (1998, Theor. Appl. Genet. 97:828-833). This rejection is maintained for the reasons of record set forth in the Official action mailed 2/12/2007. Applicant's arguments filed 7/12/2007 have been fully considered but they are not persuasive.

Applicants contend the Foisset et al reference does not provide an enabling disclosure of the claimed mutant plant for one of ordinary skill in the art to grow and cultivate (page 9 of Remarks, 2nd paragraph). Applicants contend using EMS to mutagenize a population of seed to produce the claimed mutant plant, is not taught by Foisset et al (page 9 of Remarks, 3rd paragraph). Applicants contend that Barret et al disclose that the bzh mutation is semi-dominant which Applicants contend will further add to the difficulty in identifying a plant with the claimed mutation (page 10 of Remarks, 1st full paragraph).

The Office contends claims 5-8, 11 and 13-16 are drawn to plants comprising the mutant nucleic acid sequence of claim 1, which read on the plants of Foisset et al. "[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed.Cir. 1999). Thus the claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable.

8. No claims are allowed.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1638

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Art Unit: 1638

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stuart F. Baum Ph.D.
Primary Examiner
Art Unit 1638
September 27, 2007

A handwritten signature in black ink, appearing to read "Stuart F. Baum", written over a horizontal line.

STUART F BAUM, PH.D.
PRIMARY EXAMINER